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Case No.: 58980US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	SPURGEON, KATHRYN M.		
Application No.:	10/732993	Confirmation No.:	8280
Filed:	December 11, 2003	Group Art Unit	1791
Title:	MICROSTRUCTURED SCREEN AND METHOD OF MANUFACTURING USING COEXTRUSION		

BRIEF ON APPEAL

Mail Stop: Appeal Brief-Patents
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Alexandria, VA 22313-1450

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May 5, 2008 — Signed by: Madonna M. Schroeder

Date

Dear Sir:

This is an appeal from the Office Action mailed on November 19, 2007, finally rejecting claims 1-33.

Fees

☑ Any required fee under 37 CFR § 41.20(b)(2) will be made at the time of submission via EFS-Web. In the event fees are not or cannot be paid at the time of EFS-Web submission, please charge any fees under 37 CFR § 1.17 which may be required to Deposit Account No. 13-3723.

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☒ Please charge any additional fees associated with the prosecution of this application to Deposit Account No. 13-3723. This authorization includes the fee for any necessary extension of time under 37 CFR § 1.136(a). To the extent any such extension should become necessary, it is hereby requested.

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A Notice of Appeal in this application was mailed on February 11, 2008, and was received in the USPTO on February 11, 2008.

Appellants representative Robert V. Heiti wishes to acknowledge a telephone conversation with Examiner Vargot on January 30, 2008 to clarify the nature of the Final Office Action. Agreement was not reached, and as a result Appellants filed the Notice of Appeal.

Appellants request the opportunity for a personal appearance before the Board of Appeals to argue the issues of this appeal. The fee for the personal appearance will be timely paid upon receipt of the Examiner's Answer.

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

STATUS OF CLAIMS

Claims 1-33 are pending. Claims 1-33 stand rejected. Claims 1-33 are appealed.

STATUS OF AMENDMENTS

No amendments have been filed after the final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

(PAGES AND LINES RELATE TO SPECIFICATION, AS FILED, UNLESS OTHERWISE STATED)

Claim 1

The subject matter of independent claim 1 is a method of forming an optical film. The method includes extruding a first material (see, e.g., material 32, page 5 line 27; FIG 2) to form a first film (see, e.g., page 2 line 14) in a molten state (see, e.g., page 5 line 28 to page 6 line 2). The method additionally includes extruding a second material (see, e.g., material 34, page 5 line 27; FIG 2) to form a second film (see, e.g., page 2 line 15) in a molten state (see, e.g., page 2 lines 14-15; page 5 line 28 to page 6 line 2). The method additionally includes maintaining the first and second films in molten states (see, e.g., page 2 lines 15-16; page 6 lines 2-3). The method additionally includes bringing the molten first film proximate the molten second film (see, e.g., page 2 line 16; page 6 lines 3-4; page 6 lines 10-12; FIG 2). The method additionally includes patterning the molten second film (see, e.g., page 6 lines 10-12; page 6 lines 16-17) to form a plurality of structures, the structures defining a plurality of cavities therebetween (see,

e.g., page 2 lines 16-18). The method additionally includes solidifying the molten second film (see, e.g., page 2 line 18).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection

Claims 1, 4, 8, 10 and 12 stand rejected under 35 USC § 102(b) as purportedly anticipated by U.S. Patent No. 6,060,003 (Karszes) for reasons of record.

Second Ground of Rejection

Claims 1, 4, 8, 9 and 10-33 stand rejected under 35 USC § 103(a) as purportedly unpatentable over U.S. Patent No. 6,060,003 (Karszes) for reasons of record.

Third Ground of Rejection

Claims 2, 3 and 5-7 stand rejected under 35 USC § 103(a) as purportedly unpatentable over the combined teachings of U.S. Patent Nos. 6,060,003 (Karszes) and 4,701,019 (Fitzpatrick) for reasons of record.

ARGUMENT

Claims 1, 4, 8, 10 and 12 are novel over U.S. Patent No. 6,060,003 (Karszes)

In order to anticipate a claim, a reference must teach every element of the claim. Appellants arguments of record have shown that Karszes does not teach every element of independent claim 1, and therefore claim 1 and dependent claims 4, 8, 10 and 12 are not anticipated by Karszes. Karszes does not teach:

> extruding a first material to form a first film in a molten state;
> extruding a second material to form a second film in a molten state;
> maintaining the first and second films in molten states;
> bringing the molten first film proximate the molten second film.

Regarding claim 1, the Examiner states that Karszes discloses a film in black box 122 (Final Office Action, page 2). Appellants respectfully disagree. It cannot reasonably be said that a material inside black box 122 is a film.

Karszes discloses clear molten materials in reservoirs 10, 12, and 14 (column 3 lines 23-25). Karszes further discloses that the molten materials (resins) contact one another in "black box" 122 (column 4 line 1). There is no disclosure, expressly or inherently, as to the form of the materials inside the black box. Hence, the Examiner provides no reasonable basis for characterizing a material inside the "black box" as a film. The reference itself goes out of its way to avoid characterizing the resin contact by referring to box 122 as a "black box".

Further, Karszes fails to teach bringing the molten first film proximate the molten second film. There is no molten first film and molten second film in Karszes. Karszes merely discloses that the resins contact one another in "black box" 122, then flow through conduit 126 in die 128 and die opening 124, and are co-extruded as molten co-extruded material 49 to form sheet 30.

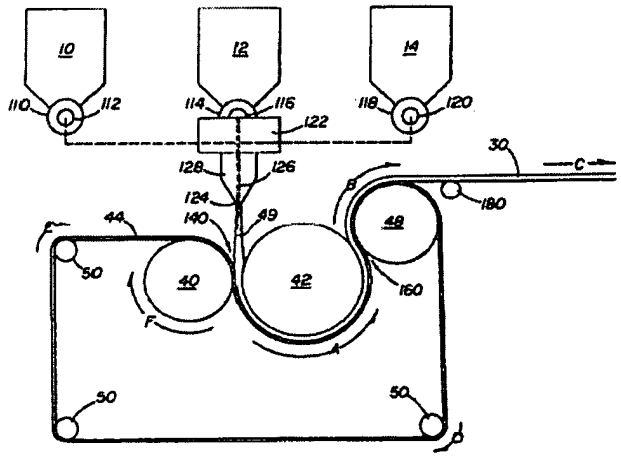

FIG 1 (Karszes)

Resins that flow cannot be equated to a film. Extruding materials to form separate molten films and then bringing the separate molten films proximate each other is different from contacting resins and extruding the contacted resins.

Appellants extrude a first material to form a first film in a molten state, extrude a second material to form a second film in a molten state, maintain the first and second films in molten states, and bring the molten first film proximate the molten second film.

> "Each material **32** and **34** is isolated from the other until after they are extruded from die **28**. After extrusion, the materials **32** and **34** are brought into contact with each other, wherein at least material **34** is still in a molten state."
> (Appellants, page 6 lines 2-4; FIG 2; emphasis added)

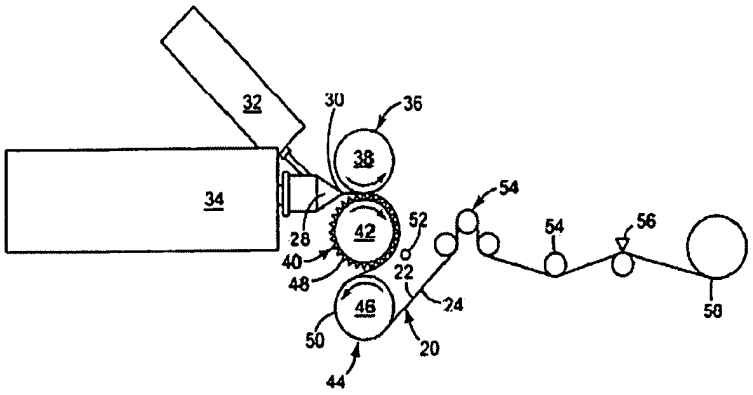

FIG 2 (Appellants)

In summary, nowhere does Karszes teach extruding a first material to form a first film in a molten state, extruding a second material to form a second film in a molten state, maintaining the first and second films in molten states, and bringing the molten first film proximate the molten second film. Thus, the teachings of Karszes do not anticipate Appellant's claims.

Applicants assert that the rejection of claim 1 under 35 USC § 102(b) should be reversed. Dependent claims 4, 8, 10 and 12 each add additional elements to claim 1, and are also patentable.

Claims 1, 4, 8, 9 and 10-33 are nonobvious over U.S. Patent No. 6,060,003 (Karszes).

Appellants arguments of record have shown that Karszes does not teach or suggest every element of independent claim 1, and therefore claim 1 and dependent claims 4, 8, 9 and 10-33 are also nonobvious over Karszes. Karszes does not teach, suggest, or provide motivation for:

extruding a first material to form a first film in a molten state;
extruding a second material to form a second film in a molten state;
maintaining the first and second films in molten states;
bringing the molten first film proximate the molten second film.

The Examiner states that it would not take any inventive skill to reconfigure the black box of Karszes as separate extruders whereby individual films would be extruded and then combined (Final Office Action, page 3). Appellants respectfully disagree, because there is no teaching or suggestion in Karszes regarding extrusion of individual films. Only by using Appellant's specification as a guide or roadmap, could the reconfiguration of the black box be contemplated. The Examiner has provided no reason why one would be motivated to do so. Further, even if one were motivated to substitute separate extruders for whatever is contained in the "black box", Karszes teaches that the resulting contacted resins then flow through a conduit in a die and the die opening. The subsequent flow through the conduit and die teach away from Appellants invention.

The Examiner further states:

"Clearly, pumping separate streams so that they combine laterally in a die and then extruding this combined flow out of an extruder nozzle is a mechanical equivalent to employing separate extruders which would extrude separate streams which are then combined." (Final Office Action page 3, emphasis added)

Appellants respectfully disagree. It is well known that resins in contact that flow through a die are different from separated molten films which are brought proximate after they leave a die. For example, compatible materials would mix within a die, and separate films would not result. Karszes combines resins in a black box and extrudes the mixture. Appellants go against this teaching by keeping the materials separated until after extrusion.

In summary, nowhere does Karszes teach, suggest, or provide motivation for extruding a first material to form a first film in a molten state, extruding a second material to form a second film in a molten state, maintaining the first and second films in molten states, and bringing the molten first film proximate the molten second film. Further, the Examiner has provided no other teaching, suggestion, or motivation to render Appellant's process obvious. Additionally, the modification in Karszes suggested by the Examiner would not result in the present invention,

taking in the entire teaching of Karszes. For at least these reasons, Appelant's process is nonobvious over Karszes.

Applicants assert that the rejection of claim 1 under 35 USC § 103(a) should be reversed. Dependent claims 4, 8, 9 and 10-33 each add additional elements to claim 1, and are also patentable.

Claims 2, 3 and 5-7 are nonobvious over the combined teachings of U.S. Patent Nos. 6,060,003 (Karszes) and 4,701,019 (Fitzpatrick).

Contrary to the third ground of rejection, claims 2, 3 and 5-7 are not obvious under 35 USC § 103(a) over the combined teachings of Karszes and Fitzpatrick. Appellants' arguments regarding the first and second grounds of rejection show that Karszes does not teach or suggest every element of independent claim 1. Fitzpatrick fails to remedy any lack in Karszes. Dependent claims 2, 3 and 5-7 each add additional elements to claim 1, and are also nonobvious over the combined teachings of Karszes and Fitzpatrick.

Applicants assert that the rejection of claims 2, 3 and 5-7 under 35 USC § 103(a) should be reversed.

CONCLUSION

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

Respectfully submitted,

5/2/08
Date

By: _____
Robert V. Heiti, Reg. No.: 38,488
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Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833

CLAIMS APPENDIX

1. A method of forming an optical film comprising:
extruding a first material to form a first film in a molten state;
extruding a second material to form a second film in a molten state;
maintaining the first and second films in molten states;
bringing the molten first film proximate the molten second film;
patterning the molten second film to form a plurality of structures, the structures defining a plurality of cavities therebetween; and
solidifying the molten second film.

2. The method of claim 1 further comprising at least partially filling the plurality of cavities with an optical material.

3. The method of claim 2 wherein the optical material is light absorbing.

4. The method of claim 1 in which the first material and the second material are of a same polymer composition.

5. The method of claim 2 in which the optical material includes a black pigment.

6. The method of claim 2 and further comprising laminating a shield to the plurality of structures and the optical material.

7. The method of claim 2 and further comprising disposing a hard coat adjacent the plurality of structures and adjacent the optical material.

8. The method of claim 1 in which each structure comprises a rib.

9. The method of claim 1 in which the first material comprises a light transmitting material and the second material comprises the light transmitting material and a plurality of light diffusing particles.

10. The method of claim 1 in which:

the step of extruding the first material includes extruding the first material proximate a nip roll;

the step of extruding the second material includes extruding the second material proximate a cast roll;

the step of extruding the first material is performed simultaneously with the step of extruding the second material; and

the step of patterning the second film to form a plurality of structures includes compressing the second material against the cast roll to impart a pattern cast on the roll onto the second material.

11. The method of claim 10 in which the cast roll is formed of a metal selected from the group consisting of chromium, nickel, titanium, or an alloy thereof.

12. The method of claim 10 in which the nip roll rotates in a first direction and in which the cast roll rotates in a second direction opposite the first direction.

13. The method of claim 12 further comprising:

removing the optical film from the cast roll by winding the film about a carrier roll, the carrier roll rotating in the first direction.

14. The method of claim 13 further comprising:

heating the carrier roll.

15. The method of claim 14 further comprising:

running heated oil through an interior of the carrier roll.

16. The method of claim 14 further comprising:

heating the cast roll to greater than or about 66 ° C.

17. The method of claim 13 further comprising:
cooling the carrier roll.

18. The method of claim 17 further comprising:
running water through an interior of the carrier roll.

19. The method of claim 13 in which the carrier roll is formed of a metal selected from the group consisting of chromium, nickel, titanium, or an alloy thereof.

20. The method of claim 13 further comprising:
cooling the film by supplying air thereto prior to removing the film from the cast roll.

21. The method of claim 20 in which the step of cooling the film includes supplying air at about 620 kPa.

22. The method of claim 10 further comprising:
heating the nip roll.

23. The method of claim 22 further comprising:
heating the nip roll to greater than or about 52° C.

24. The method of claim 22 further comprising:
running heated oil through an interior of the nip roll.

25. The method of claim 10 further comprising:
cooling the nip roll.

26. The method of claim 10 further comprising:
heating the cast roll.

27. The method of claim 26 further comprising:

heating the cast roll to greater than or about 204° C.

28. The method of claim 27 further comprising:
heating the cast roll to greater than or about 252° C.

29. The method of claim 27 further comprising:
heating the cast roll to less than or about 282° C.

30. The method of claim 26 further comprising:
running heated oil through an interior of the cast roll.

31. The method of claim 10 in which the nip roll is formed of silicone rubber.

32. The method of claim 1 in which the steps of extruding the first material and extruding the second material include heating a die for simultaneously extruding the first material and the second material.

33. The method of claim 32 in which the die is heated to about 293° C.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.